

## WHAT IS CLAIMED IS:

1. A compiler for processing computer program source code, to generate object code to be executed by a RISC (Reduced Instruction Set Computer) type of CPU (central processing unit) of a computer, said object code including code for an instruction for judging the value of a bit variable and an instruction for assigning a value to a bit variable, said bit variables being held in a memory or a register of said computer, wherein

said object code is generated such that, when said object code is executed, processing is performed whereby a bit operational expression which is written within said source code is converted to a condition judgement expression which judges the respective values of bit variables that are operands of said bit operational expression, and whereby a predetermined first binary value and a predetermined second binary value are selectively assigned to a bit variable which holds a result of said bit operational expression, in accordance with whether a "true" or a "false" decision is obtained from said condition judgement expression.

2. The compiler according to claim 1, wherein a set of bit variables held in an internal register of said CPU can be processed as a register variable, and wherein said

condition judgement expression judges the values of  
respective ones of said set of bit variables.

3. A data storage medium having a compiler as claimed in  
claim 1 stored therein.

4. A program conversion apparatus for reading out the  
contents of a source code file which is stored as a  
program, and for converting said source code file to an  
object code file whose contents are to be executed by a  
RISC (Reduced Instruction Set Computer) type of CPU  
(central processing unit) of a computer, said object code  
including an instruction for judging the value of a bit  
variable and an instruction for assigning a value to a bit  
variable, said bit variables being held in a memory or a  
register of said computer, wherein

said program conversion apparatus comprises memory  
means having stored therein a compiler for generating  
object code such that, when said object code is executed,  
processing is performed whereby a bit operational  
expression which is written within said source code is  
converted to a condition judgement expression which judges  
the respective values of bit variables that are operands of  
said bit operational expression, and whereby a  
predetermined first binary value and a predetermined second

binary value are selectively assigned to a bit variable which holds a result of said bit operational expression, in accordance with whether a "true" or a "false" decision is obtained from said condition judgement expression.

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judgement expression which judges the respective values of bit variables that are operands of said bit operational expression, and whereby a predetermined first binary value and a predetermined second binary value are selectively  
5 assigned to a bit variable which holds a result of said bit operational expression, in accordance with whether a "true" or a "false" decision is obtained from said condition judgement expression.

7. A program conversion method according to claim 6, wherein said compiler is capable of generating object code whereby a set of bit variables are held in an internal register of said CPU and processed as a register variable, and wherein said condition judgement expression judges the  
10 values of respective ones of said set of bit variables.

8. A microcomputer having a RISC (Reduced Instruction Set Computer) type of CPU (central processing unit) which can execute an instruction for judging the value of a bit  
15 variable and an instruction for assigning a value to a bit variable, wherein said microcomputer comprises

a program memory having stored therein a program which has been converted from source code to object code by a compiler, wherein said object code is constituted such as  
20 to effect processing whereby when a bit operational

expression appears within said source code, respective values of bit variables which are operands of said bit operational expression are judged, and respectively different values are assigned to a bit variable which holds a result of said bit operational expression, in accordance with a result of said judgement.

9. A microcomputer as claimed in claim 8, wherein said object code is generated by said compiler such that said program stored in said program memory processes a set of bit variables appearing in said source code as a register variable, which is held in an internal register of said CPU, and whereby said judgement is applied to each of respective bit variables of said set.